

Work Order ID 147982***147982***

Page 1

Friday, June 17, 2016 8:01:19 AM

Item ID: D205-634-041

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Replacement Skidtube with Standard Wearplates Fits LH or RH

Start Date: 6/29/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 7/7/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: MCS Date: **JUN 20 2016**

Tooling:

Date:

Run Start

NR1

QC: _____ Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2580-041	G								

100

Document Control

0.00

100

DC

DOCUMENT CONTROL

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy D205-634 bluefile & type labels per PPP D205-634-041 CHG005

DAS
21
9-89**AUG 24 2016**N/A

110

BENDING MACHINE - SKIDTUBES

0.02

110

CNC Bend 1

CNC Delta 100 Bender

Memo

0.07

1-Bend as per program D2580.C on CNC Bender and Folio 16

2-Cut tubes as per Dwg. D2580

3- scribe batch# in aft end of tube

16-7-11/24/1 + R. L

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
						QC / QA Coordinator Approval			
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER :									

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Item ID: D205-634-041

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N900040100Setup Start ***NS1***

Revision ID:

Item Name: Replacement Skidtube with Standard Wearplates Fits LH or RH

Stop ***NS2***Start Date: 6/29/2016 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 7/7/2016 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120		0.00							
120									
Skidtubes	Memo	0.21							
Skidtubes	1- Deburr ends and remove bending marks								
	2- Prepare tube for welding as per QSI 004								
130	QC5- Inspect part completeness to step on W/O	0.00							
130									
QC	Memo	0.00							
Quality Control									

R. L

1 0 16-07-19

JH

DAS
18
9-89

1 0 16-07-19

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
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Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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NR1

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

140

0.00

140

Skidtubes

Skidtubes

Memo

0.25

1-Weld step D2576 as per Dwg. D2580 and QSI 004
A/R Aluminum Rod *MB4826**8616-0721*

2-Grind welds on step as per Dwg D2580

3- Insert D4202-1 spacer, swage as per QSI002 and trim/ grind flush per QSI002
and dwg. Hold x-bolt with DT9701 Use tube expander 1/2 x17G to start
expansion and finish with 1/2 x 18G to achieve dwg dimention.*R.L*DAS
19
9-89*16-07-19*4-Drill holes for wearplates using DT 8217 & DT8937, 7.40" from most fwd
saddle holes (ref only) Open holes to 19/64", adjust stopper not to hit
web. Debur*R.L**16-07-22*

6-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Debur

*R.L
H.G**16-07-22*

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Debur

16-7-25

150

QC10- Inspect visual per QSI004- ground welds

0.00

150

QC

Quality Control

Memo

0.00

DAS
9
9-89*16-07-27*

DQA: _____ Date: _____



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Page 4

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Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Replacement Skidtube with Standard Wearplates Fits LH or RH

Start Date: 6/29/2016 Start Qty: 1.00 ***1***

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Run Start ***NR1***

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Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC5- Inspect part completeness to step on W/O	0.00							DAS
160									9
QC	Memo	0.00							9-89
Quality Control									
170	Pressure Wash per QSI005 4.3	0.00							DAS
170									15
HandFinish	Memo	0.09							9-89
Hand Finishing	Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution.								BEB
180	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
180									
Powdercoat	Memo	0.05							
Powder Coating	START TIME: 10:45a								
	OVEN TEMPERATURE: 370°								
	FINISH TIME: 12:15a								

DQA: _____ Date: _____



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NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC3- Inspect Part Finish

0.00

190

QC

Memo

0.00

Quality Control

1

DAS

41

9.89

16-8-8

DQA: _____ Date: _____



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QA Closed: _____ Date: _____

Work Order update only ☐

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Work Order ID 147982***147982***

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Friday, June 17, 2016 8:01:19 AM

Item ID: D205-634-041

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Replacement Skidtube with Standard Wearplates Fits LH or RH

Start Date: 6/29/2016 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 7/7/2016 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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200

0.00

200

HandFinish

Hand Finishing

Memo

0.26

1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates
A/R Sikaflex-291 M135204
Sikaflex expire date: 17102

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580 RTU 598 M135047 16109

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive
A/R Sikaflex-291 M135204
Sikaflex expire date: 17102

5-Wing Walk as per Dwg D2580 and QSI 005 4.4
Batch: M135317

12 of 111 16109/09

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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21
9-89

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Picklist Print

Friday, June 17, 2016 8:01:18 AM

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Work Order ID: 147982

147982

Parent Item: D205-634-041

D205-634-041

Parent Item Name: Replacement Skidtube with Standard Wearplates Fits LH or RH

Start Date: 6/29/2016

Required Date: 7/7/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30
 KJ IPP Rev P 10.02.19
 per PAR09-043 EC verified by:DD
 IPP Rev. O 06.02.28 Added paperwork EC
 IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM IPP Rev:Q
 10.12.01 as per chg003 DD verf:EC IPP REV:R 12.01.23 AS
 PER ECN11-684 VERF:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D4202-1		Manufactured	No			140	Each	534.0000	20	20			
---------	--	--------------	----	--	--	-----	------	----------	----	----	--	--	--

D4202-1

Spacer

**

16-07-19 R.L

Location

Loc Qty

Loc Code

LG001

534

20

141708

88

145902

446

D2580-1		Manufactured	No			110	Each	1.0000	1	1			
---------	--	--------------	----	--	--	-----	------	--------	---	---	--	--	--

D2580-1

205 Bent Tube

**

16-7-16 JH

Location

Loc Qty

Loc Code

LG002

1

1

145012

1

D2576-3		Manufactured	No			140	Each	42.0000	1	1			
---------	--	--------------	----	--	--	-----	------	---------	---	---	--	--	--

D2576-3

Step (Machining Detail)

**

16-07-21

Location

Loc Qty

Loc Code

LG001

42

136730

1

142485

1

144673

40

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition				Completed By																	
								Lead hand / Supervisor Approval Verification																	
										QC / QA Coordinator Approval															
Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : ☐																			

Picklist Print

Friday, June 17, 2016 8:01:18 AM

Page 2

Work Order ID: 147982

147982

Parent Item: D205-634-041

D205-634-041

Parent Item Name: Replacement Skidtube with Standard Wearplates Fits LH or RH

Start Date: 6/29/2016

Required Date: 7/7/2016

Start Qty: 1.00

Required Qty: 1.00

D2855 Manufactured No 200 Each 34.0000 1 1

D2855

Cap

**

ll 16/08/09

Location

Loc Qty

Loc Code

FP001

34

134027

6

137568

28

AN3-5A Purchased No

200 Each 172.0000 2

AN3-5A

Bolt

**

ll 16/08/09

Location

Loc Qty

Loc Code

FP001

4

m133686

2

m134055

2

ST350

168

m134502

168

NAS1149D0332J Purchased No

200 Each 1,108.000 2

NAS1149D0332J

Washer

**

ll 16/08/09

Location

Loc Qty

Loc Code

CA

6

m129682

6

FP001

16

m134502

16

ST260a

564

m134848

564

ST264

522

m134502

24

m134738

498

Friday, June 17, 2016 8:01:18 AM

Shop Packet Print

Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Date : _____		Step #: _____		QTY Effective : _____			MRB (QS1042) Approval																		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																	

Root Cause				FAULT CATEGORY																																																											
☐ Environment	☐ Design	☐ Doc/Data	☐ Equip/Tooling	☐ Handling/Pre	☐ Material	☐ Internal Transport	☐ Tribal Knowledge	☐ LOA	☐ Substation	☐ Past Expiry Date	☐ Misidentified	☐ No Re-verification	☐ Operator	☐ Offset/Setup	☐ Supplier	☐ Training	☐ Use for Testing	☐ Poor Information	☐ Rushing	☐ Product Improvement	☐ Process Improvement	☐ Manufacturing Process	☐ Past Due	☐ Pressure/Forced	☐ Bending	☐ Centre Not Concentric	☐ Cracks	☐ Crimp/Kink/Ripple/Wave	☐ Cuffs	☐ Crushing	☐ Heat Treat	☐ Wave/Twist in Tube	☐ Marks/Chatter	☐ Temperature/Cure	☐ Set-up	☐ BOM/Route	☐ Broken/Damage/Defect	☐ Inspection Incomplete/Unqualified	☐ Contamination	☐ Countersink	☐ Cut Too Short	☐ Instructions Incomplete/Unclear	☐ Drill Holes	☐ Power Loss/Surge	☐ Folio/Program	☐ Grain	☐ Weld	☐ Wrong Stock Pulled	☐ Out of Sequence	☐ Off-set	☐ Mislabeled	☐ Fit/Function	☐ Misaligned/off center	☐ Positioned Wrong	☐ Outside Dimensions	☐ Over/Under tolerance	☐ Part Incorrect	☐ Part Lost/Missing	☐ Part Moved	☐ Drawing	☐ Finish	☐ Misread	☐ Turning Sequence
																								OTHER : _____																																							

Picklist Print

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Page 3

Work Order ID: 147982

147982

Parent Item: D205-634-041

D205-634-041

Parent Item Name: Replacement Skidtube with Standard Wearplates Fits LH or RH

Start Date: 6/29/2016

Required Date: 7/7/2016

Start Qty: 1.00

Required Qty: 1.00

ALS7-1032-130

AELS8-1032-130 Purchased

No

200

Each

1,290.000

50

50

ALS7-1032-130 *X* *ALS4-1032-130* *11134502*

XSD ******

del *16/08/09*

Rivnut

Location

Loc Qty

Loc Code

FG	50	
M128649	50	
FP001	29	
M128649	29	
st549	1211	
M128649	1211	

AN3C4A

Purchased

No

200

Each

1,029.000

50

50

AN3C4A *X*

del *14/08/09*

Bolt

Location

Loc Qty

Loc Code

FG	20	
122814	20	
FP001	703	
M133440	7	
M134396	41	
M134509	6	
M134606	29	
M134676	44	
M134762	576	
OVER002	200	
M134861	200	
ST350	106	
M131420	6	
M132317	3	
M134134	18	
M134396	79	

11135058

XSD

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Shop Packet Print

Page 3

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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Picklist Print

Friday, June 17, 2016 8:01:18 AM

Work Order ID: 147982

147982

Parent Item: D205-634-041

D205-634-041

Parent Item Name: Replacement Skidtube with Standard Wearplates Fits LH or RH

Start Date: 6/29/2016

Required Date: 7/7/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0332R

Purchased

No

200

Each

4,245.000

50

50

NAS1149C0332R******

WASHER

LocationLoc QtyLoc Code

FP001

1136

11135046

x30

m132930

1004

m134073

128

m134574

4

GA

141

m133284

141

ST266

2968

m134654

10

m134736

1958

m134962

1000

D3566-13

Manufactured

No

200

Each

21.0000

1

1

D3566-13******

Gasket Fwd

LocationLoc QtyLoc Code

FG

2

B148070

x1

98908

2

FP001

19

144947

19

D3566-5

Manufactured

No

200

Each

20.0000

1

1

D3566-5******

Gasket Center Aft

LocationLoc QtyLoc Code

FG

2

B148071

x1

139236

2

FP001

18

144273

18

Friday, June 17, 2016 8:01:18 AM

Shop Packet Print

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐									
Date : _____		Step # : _____		QTY Effective : _____			MRB (QSI042) Approval						
Description Work Order Deviation				Disposition				Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____					
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		OTHER : _____											

Picklist Print

Friday, June 17, 2016 8:01:18 AM

Page 5

Work Order ID: 147982

147982

Parent Item: D205-634-041

D205-634-041

Parent Item Name: Replacement Skidtube with Standard Wearplates Fits LH or RH

Start Date: 6/29/2016

Required Date: 7/7/2016

Start Qty: 1.00

Required Qty: 1.00

D3566-1 Manufactured No

200 Each 39.0000 2 2

D3566-1

Gasket Aft / Fwd

ll 16/08/09

Location

Loc Qty

Loc Code

FG

8

B148680

X2

117012

4

139221

4

FP001

31

139221

4

140819

1

145822

26

D3564-11 Manufactured No

200 Each 24.0000 1 1

D3564-11

Wearplate Aft

ll 16/08/09

Location

Loc Qty

Loc Code

FG

4

77056

4

FP002

20

145652

7

146558

13

X1

D3564-13 Manufactured No

200 Each 16.0000 1 1

D3564-13

Wearpad Fwd

ll 16/08/09

Location

Loc Qty

Loc Code

FG

2

89044

2

B145930

X1

FP001

14

144946

14

Friday, June 17, 2016 8:01:18 AM

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Page 5

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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OTHER : _____																									

Picklist Print

Friday, June 17, 2016 8:01:18 AM

Work Order ID: 147982

147982

Parent Item: D205-634-041

D205-634-041

Parent Item Name: Replacement Skidtube with Standard Wearplates Fits LH or RH

Start Date: 6/29/2016

Required Date: 7/7/2016

Start Qty: 1.00

Required Qty: 1.00

D3564-9 Manufactured No 200 Each 37.0000 1 1

D3564-9

Wearplate Fwd

**

16/08/06

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	6	
76950	4	
88407	2	
FP002	31	
145030	3	
145843	28	

D3564-5 Manufactured No 200 Each 21.0000 1 1

D3564-5

Wearplate Center

**

16/08/06

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	3	
34806	1	
89048	2	
FP002	18	
142890	6	
144896	12	

D2594-3 Manufactured No 200 Each 328.0000 16 16

D2594-3

O-Ring

**

16/08/06

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP001	328	
135859	24	
138060	2	
140770	2	
141703	300	

B147875

x14

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

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Picklist Print

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Work Order ID: 147982

147982

Parent Item: D205-634-041

D205-634-041

Parent Item Name: Replacement Skidtube with Standard Wearplates Fits LH or RH

Start Date: 6/29/2016

Required Date: 7/7/2016

Start Qty: 1.00

Required Qty: 1.00

D2594-1

Manufactured No

200

Each

234.0000

16

16

D2594-1

all 16108108

Plug

Location

Loc Qty

Loc Code

FP001

234

13147984

119830

68

x15

134804

16

145971

118

42807

25

88922

7

Friday, June 17, 2016 8:01:18 AM

Shop Packet Print

Page 7

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LIST OF MATERIALS						PART NUMBER	DESCRIPTION
ITEM	QTY -041	QTY -045	QTY -047	QTY -049			
1	X					D2580-041	SKIDTUBE ASSEMBLY
2		X				D2580-045	SKIDTUBE ASSEMBLY
3			X			D2580-047	SKIDTUBE ASSEMBLY
4				X		D2580-049	SKIDTUBE ASSEMBLY
20	1	1	1	1		D2500-1-190	EXTRUSION
21			16	16		D2570	BUSHING
22	1	1	1	1		D2576-3	STEP
23		4				D2579	SPACER
24	16	16	8	8		D2594-1	PLUG
25	16	16	8	8		D2584-3	O-RING
26	1	1	1	1		D2596	205 WEB
27	1	1	1	1		D2855	AFT CAP
28	1	1				D3564-5	WEARSHOE
29	1	1				D3564-9	WEARSHOE
30	1	1				D3564-11	WEARSHOE
31	1	1				D3564-13	WEARSHOE
32	2	2				D3566-1	GASKET
33	1	1				D3566-5	GASKET
34	1	1				D3566-13	GASKET
35	20	20	24	24		D4202-1	SPACER
36			1			D4406-041	WEARPLATE ASSEMBLY
37			1			D4406-043	WEARPLATE ASSEMBLY
37				1		D5061-1	FWD WEARPLATE
37				1		D5061-3	AFT WEARPLATE
50	50	50				ALST-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
51	50	50				AN3C4A	BOLT
52	2	2	2	2		AN3-5A	BOLT
53			8	8		AN4-45A	BOLT
54	50	50				NAS1149C0332R	WASHER (AN960C10L)
55	2	2	2	2		NAS1149D0332J	WASHER (AN960JD10L)
56			8	8		MS21042-4	NUT (OR MS21042L4)

GENERAL NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ASSEMBLY (-041/-047/-049) GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3 POWDER COAT ASSEMBLY (-045) GREEN SANDTEX (REF 4.3.5.8) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4.
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D2580-041 = 34.5 lbs
D2580-045 = 34.5 lbs
D2580-047 = 45.1 lbs
D2580-049 = 32.0 lbs
- 8) WELDING PER DART QSI 004.
- 9) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 10) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 11) USE DART DRILL TEMPLATE DT8217 & DT8937 ONLY FOR D2580-041/-045 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTIONS B-B AND F-F (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241-291.
- 12) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES FOR D2580-041/-045 AND 8 PLACES FOR D2580-047/-049)
- 13) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

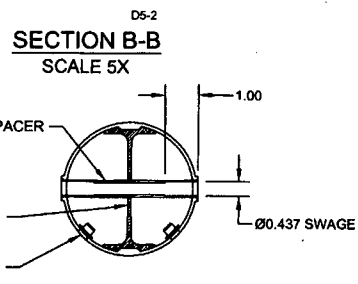
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2014-04-29

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 142982 MWS
160620

G	ADDED -049, -047 WEIGHT UPDATED PER DSI 9598	AJS	14.04.09
F	INCORPORATE DEO D2580-E-1 PER PAR12-218	DC	13.06.20
E	ADD D2580-047 (ZN C4-7) AND D2580-7 (ZN B3-8); INCLUDED DEO D2580-D-1; REFORMATTED DRAWING TO CURRENT STANDARDS; DT8217 & DT8937 WAS TD2577-205 (ZN C4-1)	RF	11.06.21
D	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/ 9183	PH	07.04.05
C	REDRAWN, INCLUDED DEO 9094/ 9097	CP	98.08.26
B	AS MANUFACTURED	DS	96.12.02
A	NEW ISSUE	DS	96.09.16
REV.	DESCRIPTION	BY	DATE
DESIGN	DS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	A.P.	DRAWING NO.	REV. G
MFG. APPR.	N	D2580	SHEET 1 OF 9
APPROVED	14	TITLE	SCALE
DE APPR.	14	205 SKIDTUBE ASSEMBLY	NTS
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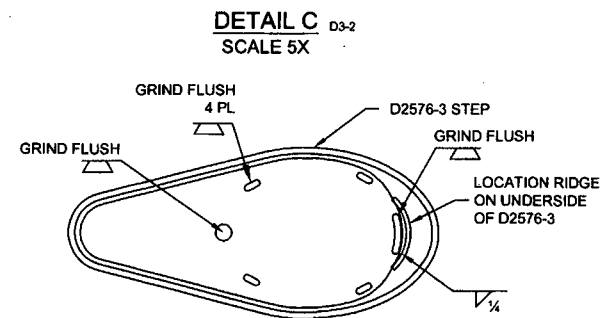


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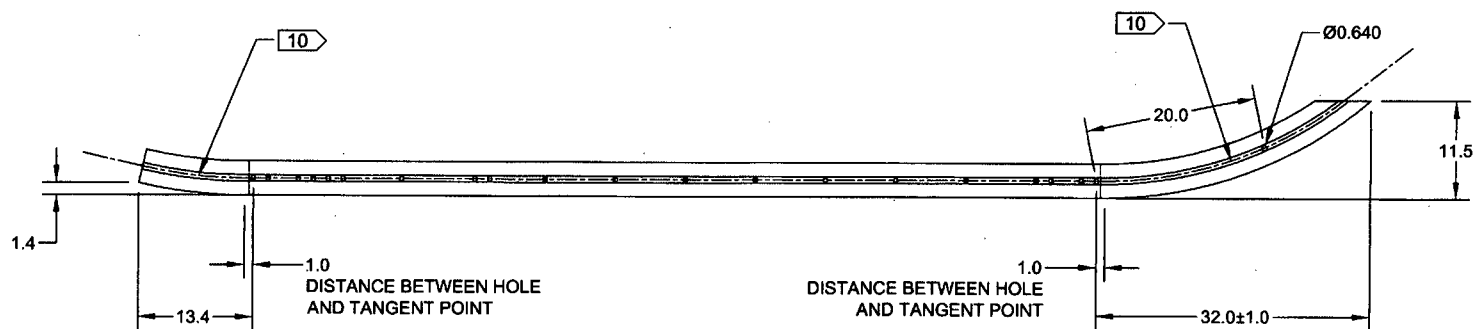


**AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:**

- 1. INSERT D4202-1 SPACER (20 PLACES)**
- 2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002**
- 3. TRIM / GRIND FLUSH PER QSI 002**



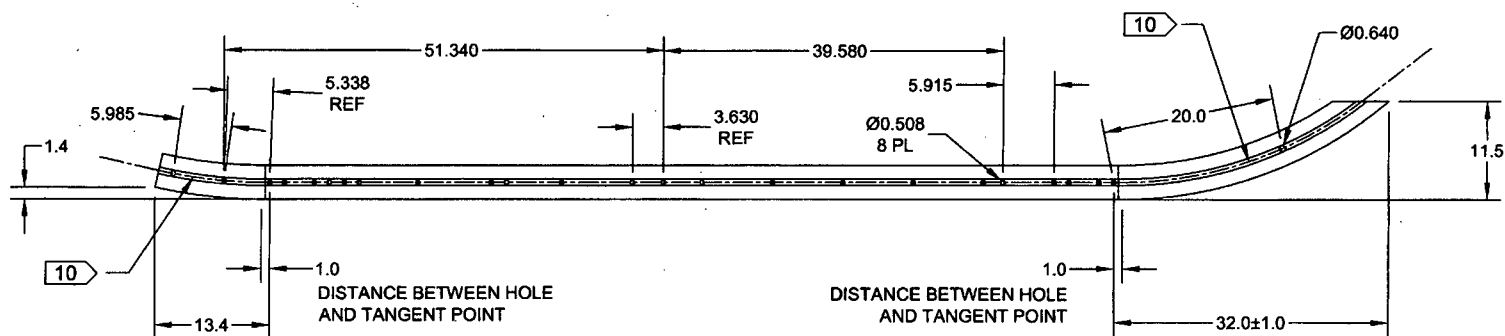
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DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>A.P.</i>	DRAWING NO.	REV. C
MFG. APPR.	<i>[Signature]</i>	D2580	SHEET 2 OF 6
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	205 SKIDTUBE ASSEMBLY	NTS
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D2580-1 BENT TUBE
(MAKE FROM D2580-101 TUBE)

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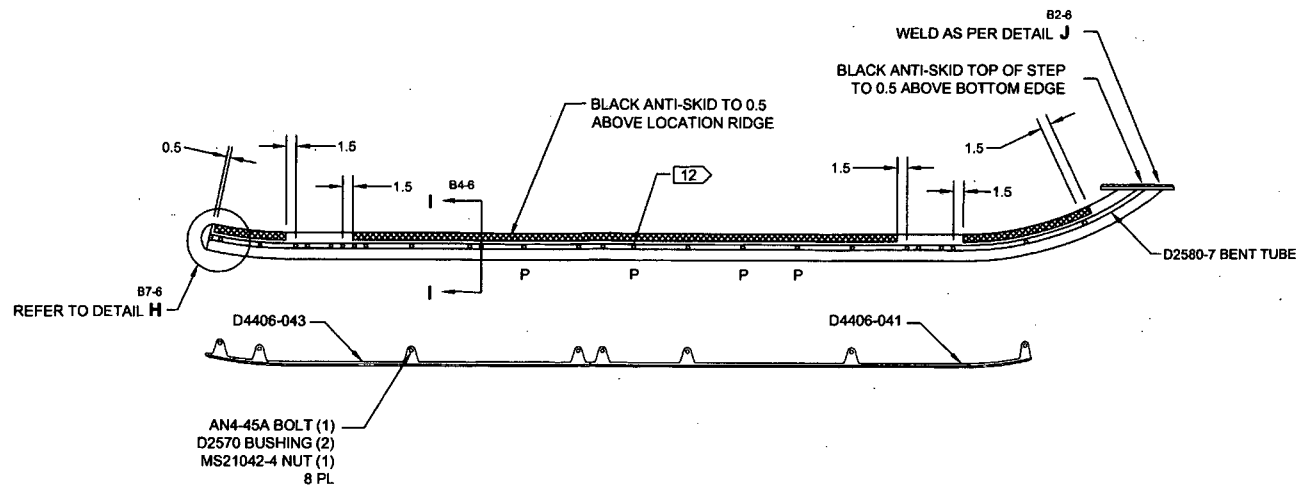
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DRAWN	AJS		
CHECKED	A.P.	DRAWING NO.	REV. G
MFG. APPR.	<i>[Signature]</i>	D2580	SHEET 3 OF 9
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	205 SKIDTUBE ASSEMBLY	NTS
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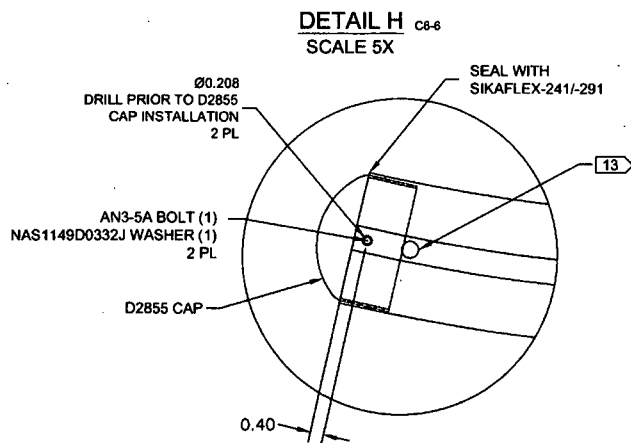
D2580-5 BENT TUBE
(MAKE FROM D2580-101 TUBE)

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2014-04-29

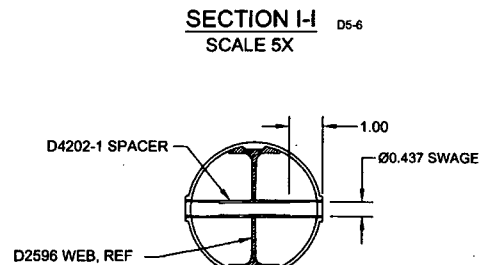
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DRAWN	AJS		
CHECKED	A.P.	DRAWING NO.	REV. G
MFG. APPR.	[Signature]	D2580	SHEET 5 OF 9
APPROVED	[Signature]	TITLE	SCALE
DE APPR.	[Signature]	205 SKIDTUBE ASSEMBLY	NTS
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D2580-047 ASSEMBLY DETAIL



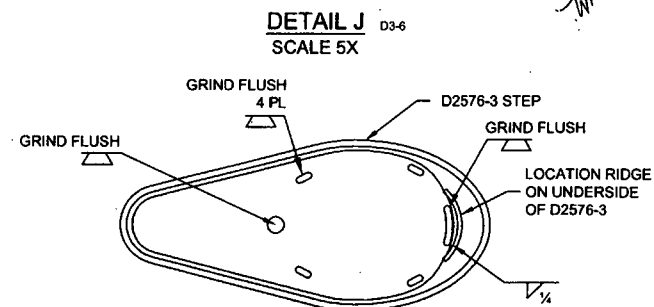
DETAIL H
SCALE 5X



SECTION I-I
SCALE 5X

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

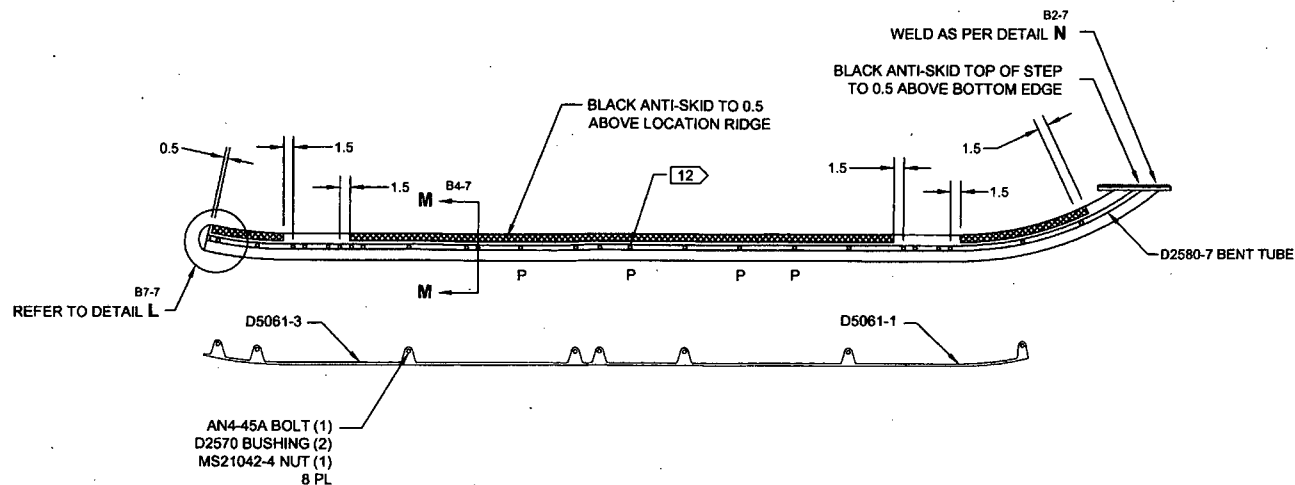
1. INSERT D4202-1 SPACER (24 PLACES)
2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002
3. TRIM/GRIND FLUSH PER QSI 002



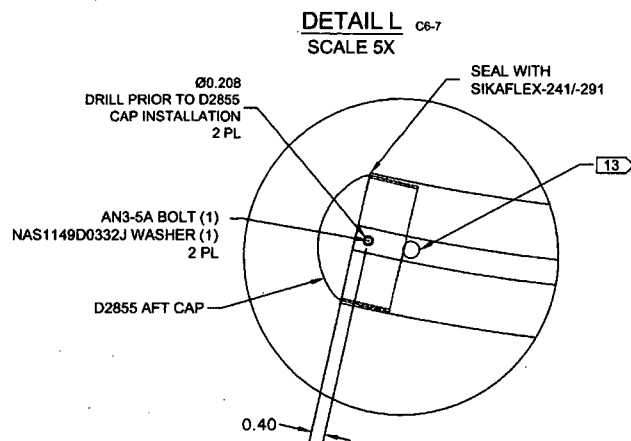
DETAIL J
SCALE 5X

DESIGN	DS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	A.P.	DRAWING NO.	REV. G
MFG. APPR.		D2580	SHEET 6 OF 9
APPROVED		TITLE	SCALE
DE APPR.		205 SKIDTUBE ASSEMBLY	NTS
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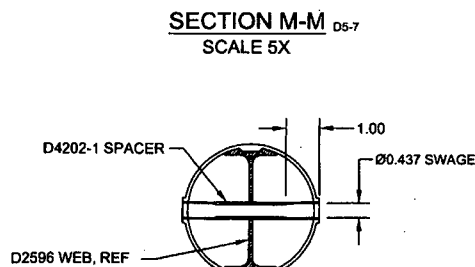
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D2580-049 ASSEMBLY DETAIL $\triangle$ G

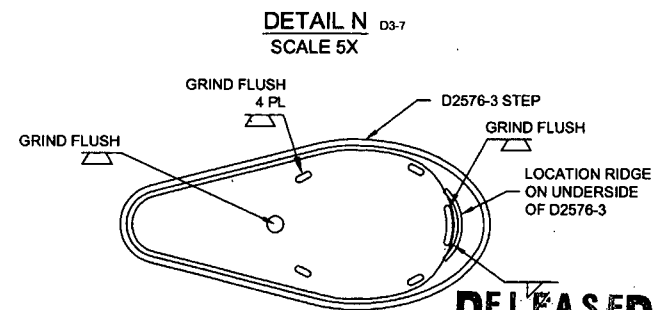


DETAIL L C6-7
SCALE 5X



SECTION M-M D5-7
SCALE 5X

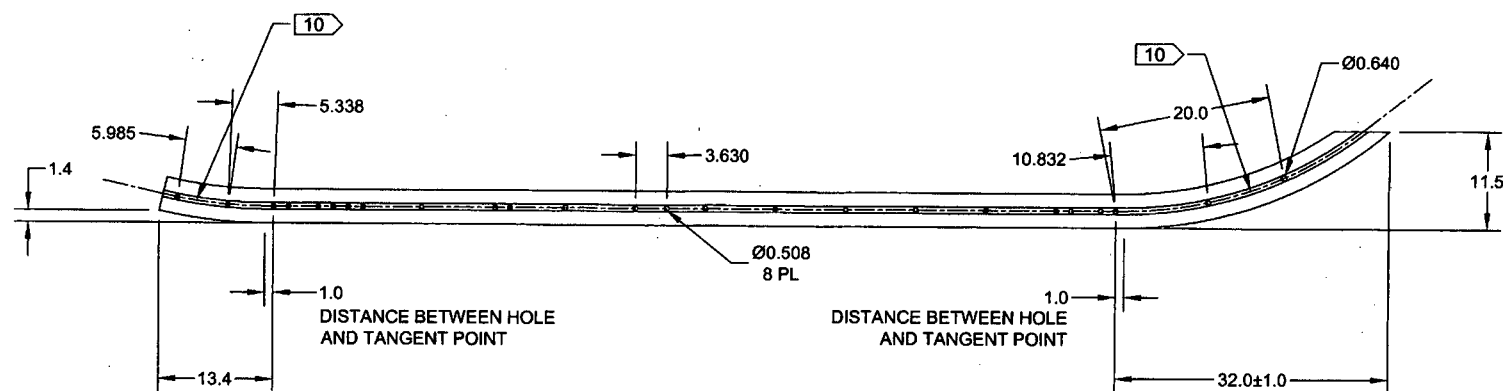
AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:
1. INSERT D4202-1 SPACER (24 PLACES)
2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002
3. TRIM/GRIND FLUSH PER QSI 002



DETAIL N D3-7
SCALE 5X

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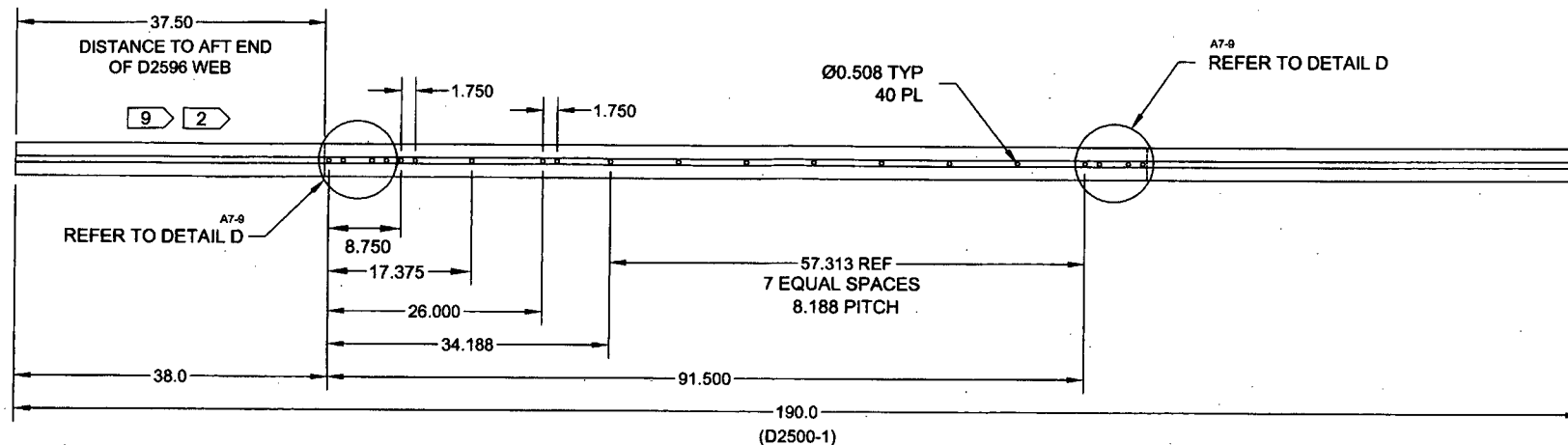
DESIGN	DS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	A.P.	DRAWING NO.	REV. G
MFG. APPR.		D2580	SHEET 7 OF 8
APPROVED		TITLE	SCALE
DE APPR.		205 SKIDTUBE ASSEMBLY	NTS
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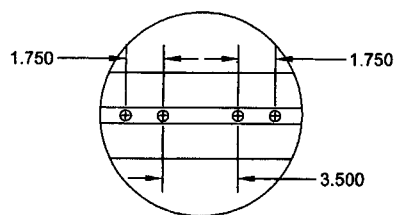
D2580-7 BENT TUBE
(MAKE FROM D2580-101 TUBE)

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2014-04-29
W

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MFG. APPR.		D2580	SHEET 8 OF 9
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D2580-101 TUBE



DETAIL D C3-B
SCALE 5X C7-B

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CHECKED	A.P.	DRAWING NO.	REV. G
MFG. APPR.	AWP	D2580	SHEET 9 OF 9
APPROVED	AWP	TITLE	SCALE
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